

	Document ID	Kind Codes	Source	Issue Date	Pages	
1	US 20030168703		US-PGPU	20030911	29	S
2	US 20020029360		US-PGPU	20020307	16	M
3	US 20020021147		US-PGPU	20020221	16	S
4	US 6617885 B2		USPAT	20030909	15	S
5	US 6466508 B1		USPAT	20021015	26	S
6	US 6295618 B1		USPAT	20010925	16	M
7	US 6243313 B1		USPAT	20010605	41	S
8	US 6243291 B1		USPAT	20010605	10	T
9	US 6240047 B1		USPAT	20010529	18	S
10	US 6233193 B1		USPAT	20010515	19	D
11	US 6226212 B1		USPAT	20010501	46	S
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13	US 6194919 B1		USPAT	20010227	10	M
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15	US 6118697 A		USPAT	20000912	39	N
16	US 6115321 A		USPAT	20000905	19	S
17	US 6097640 A		USPAT	20000801	13	M
18	US 6081453 A		USPAT	20000627	60	N
19	US 6075731 A		USPAT	20000613	23	M
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(12) Patent Application Publication (10) Pub. No.: US 2002/0021147 A1
Lim et al. (43) Pub. Date: Feb. 21, 2002(54) SENSE AMPLIFIERS HAVING GAIN
CONTROL CIRCUITS THEREIN THAT
INHIBIT SIGNAL OSCILLATIONS

Publication Classification

(76) Inventors: Jung-hyung Lim, Kyunggi-do (KR);
Kyoung-won Kang, Kyunggi-do (KR);
Doeng-ha Eym, Kyunggi-do (KR)(31) Int. Cl.⁷ H03F 3/45
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(37) ABSTRACT

Correspondence Address:
MYERS BIGGEL SIBLEY & SAJOVEC
PO BOX 37421
RALEIGH, NC 27637 (U.S.)

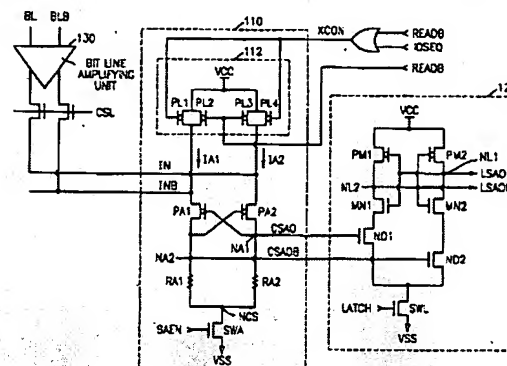
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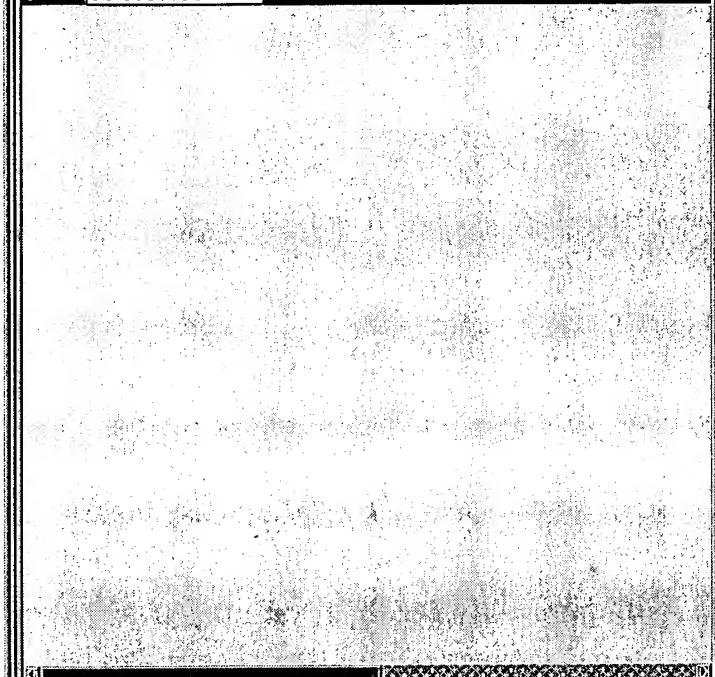
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Integrated circuit memory devices according to the present invention include a sense amplifier having a pair of differential input signal lines, a pair of differential output signal lines, and a current amplifier. The current amplifier has an input stage electrically coupled to the pair of differential input signal lines and an output stage electrically coupled to the pair of differential output signal lines. The input stage under the output stage are responsive to a first control signal that reduces a gain of the current amplifier when the first control signal is asserted.



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Primary Examiner—A. Leshin
Attorney, Agent, or Firm—McDonough, Will & Emery

ABSTRACT

Internal power supply voltage V_{int} is generated from internal high voltage V_{pp} used for word line driving or the like, using as a channel MOS transistor which operates in a source follower mode. During operation of internal circuitry, gate potential of this source follower transistor is boosted by charge pumping operation of a capacitor. Thus, conductance of the source follower mode transistor can be increased during operation of the internal circuitry without using an internal high voltage generating circuit dedicated to generation of internal power supply voltage.

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[52] U.S. Cl. 345/226; 345/180.00

[58] Field of Search 345/226, 180.11, 345/180.07, 180.09

19 Claims, 13 Drawing Sheets

